



CIVIL TECH LABS

Accredited by **NABL** as per ISO/IEC 17025 : 2005

5, 1st Cross, Srinivasa Colony, Mission Road, Bangalore - 560027
Ph: 080 - 4114 2867 / Mob. : 96862 31801, Email: civiltechlabs@gmail.com



T-2654

To,

Assistant Executive Engineer,
Kodigehalli Sub Division,
BBMP.

22nd June 2016

Dear Sir,

Sub: Testing of Wet Mix Macadam.

As requested, tests on physical properties were carried out for the Wet Mix Macadam supplied by you, for the work of **'Improvements to Roads in Hoysala layout and Surrounding area in ward no 07, Kodigehalli Sub Division.'**

Please find the enclosed Test Reports of the above.

**Thanking You,
For Civil Tech Labs**


(KHUSHBOO L. T.)
Quality Manager



AE-7
Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.



CIVIL TECH LABS

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Ph: 080 - 4114 2867, Email: civiltechlabs@gmail.com

TEST REPORT

TEST ON AGGREGATES ('AIV' & Combined Flakiness & Elongation Index)

Wet Mix Macadam

Name & Address of the Customer	AEE, Kodigehalli Sub Division, BBMP.
Name of Work	Improvements to Roads in Hoysala layout and Surrounding area in ward no 07, Kodigehalli Sub Division.
Agency of the Name	Sri. Sambashiva.
Date of Testing	20/06/2016
Reference	MORTH Table 400-10

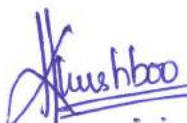
Sample No	Aggregate Impact Value 'AIV' in %	Average AIV in %	Remarks
1	22.3	23.0	Satisfactory (As per MORTH for WMM, Maximum allowed AIV is 30 %)
2	23.6		

Test	Result in %	Combined Flakiness & Elongation Index 'C-F&E' in %	Remarks
Flakiness Index	11.8	24.9	Satisfactory (As per MORTH for WMM, Maximum allowed 'C-F&E' is 30 %)
Elongation Index	13.1		

Note:

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- 4.The results are based on the test conducted on samples supplied by the client.

As per N.D.
AE (W)


(KHUSHBOO L.)
Quality Manager





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TEST REPORT

GRADATION TEST ON WET MIX MACADAM

Name & Address of the Customer	AEE, Kodigehalli Sub Division, BBMP.
Name of Work	Improvements to Roads in Hoysala layout and Surrounding area in ward no 07, Kodigehalli Sub Division.
Name of the Agency	Sri. Sambashiva.
Date of Testing	20/06/2016
Technical Reference	MORTH Table 400-11

IS Sieve Designation (mm)	% By Weight Passing IS Sieve	Actual % By Weight Passing IS Sieve	Remarks
53	100	100	Satisfy the Requirements
45	95-100	98.4	
22.4	60-80	73.6	
11.2	40-60	52.3	
4.75	25-40	32.6	
2.36	15-30	24.5	
0.6	8-22	18.4	
0.075	0-8	7.1	

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As per N.D
AE (27)


(KHUSHBOO L.)
Quality Manager

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TEST REPORT

TEST ON AGGREGATES ('AIV' & Combined Flakiness & Elongation Index)

Wet Mix Macadam

Name & Address of the Customer	AEE, Kodigehalli Sub Division, BBMP.
Name of Work	Improvements to Roads in Hoysala layout and Surrounding area in ward no 07, Kodigehalli Sub Division.
Agency of the Name	Sri. Sambashiva.
Date of Testing	21/06/2016
Reference	MORTH Table 400-10

Sample No	Aggregate Impact Value 'AIV' in %	Average AIV in %	Remarks
1	21.5	21.9	Satisfactory (As per MORTH for WMM, Maximum allowed AIV is 30 %)
2	22.3		

Test	Result in %	Combined Flakiness & Elongation Index 'C-F&E' in %	Remarks
Flakiness Index	10.6	23.1	Satisfactory (As per MORTH for WMM, Maximum allowed 'C-F&E' is 30 %)
Elongation Index	12.5		

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M. P. N. D.
AEE (W)


(KHUSHBOO L.)
Quality Manager



TEST REPORT

GRADATION TEST ON WET MIX MACADAM

Name & Address of the Customer	AEE, Kodigehalli Sub Division, BBMP.
Name of Work	Improvements to Roads in Hoysala layout and Surrounding area in ward no 07, Kodigehalli Sub Division.
Name of the Agency	Sri. Sambashiva.
Date of Testing	21/06/2016
Technical Reference	MORTH Table 400-11

IS Sieve Designation (mm)	% By Weight Passing IS Sieve	Actual % By Weight Passing IS Sieve	Remarks
53	100	100	Satisfy the Requirements
45	95-100	97.3	
22.4	60-80	72.4	
11.2	40-60	53.6	
4.75	25-40	33.6	
2.36	15-30	25.8	
0.6	8-22	17.9	
0.075	0-8	6.6	

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As per N.D.
AE (W7)


(KHUSHBOO L.)
Quality Manager





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TEST REPORT

TEST ON AGGREGATES ('AIV' & Combined Flakiness & Elongation Index)

Wet Mix Macadam

Name & Address of the Customer	AEE, Kodigehalli Sub Division, BBMP.
Name of Work	Improvements to Roads in Hoysala layout and Surrounding area in ward no 07, Kodigehalli Sub Division.
Agency of the Name	Sri. Sambashiva.
Date of Testing	22/06/2016
Reference	MORTH Table 400-10

Sample No	Aggregate Impact Value 'AIV' in %	Average AIV in %	Remarks
1	20.3	21.1	Satisfactory (As per MORTH for WMM, Maximum allowed AIV is 30 %)
2	21.8		

Test	Result in %	Combined Flakiness & Elongation Index 'C-F&E' in %	Remarks
Flakiness Index	11.6	23.8	Satisfactory (As per MORTH for WMM, Maximum allowed 'C-F&E' is 30 %)
Elongation Index	12.2		

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Asst. Engr. N.D.
AE (W)


(KHUSHBOO L.)
Quality Manager





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TEST REPORT

GRADATION TEST ON WET MIX MACADAM

Name & Address of the Customer	AEE, Kodigehalli Sub Division, BBMP.
Name of Work	Improvements to Roads in Hoysala layout and Surrounding area in ward no 07, Kodigehalli Sub Division.
Name of the Agency	Sri. Sambashiva.
Date of Testing	22/06/2016
Technical Reference	MORTH Table 400-11

IS Sieve Designation (mm)	% By Weight Passing IS Sieve	Actual % By Weight Passing IS Sieve	Remarks
53	100	100	Satisfy the Requirements
45	95-100	97.3	
22.4	60-80	72.4	
11.2	40-60	53.6	
4.75	25-40	33.6	
2.36	15-30	25.8	
0.6	8-22	17.9	
0.075	0-8	6.6	

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As per U.N.D
AE (29)


(KHUSHBOO L.)
Quality Manager





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To,

Assistant Executive Engineer,
Kodigehalli Sub Division,
BBMP.

29th June 2016

Dear Sir,

Sub: Testing of Wet Mix Macadam.

As requested, tests on physical properties were carried out for the Wet Mix Macadam supplied by you, for the work of **'Improvements to Roads in Hoysala layout and Surrounding area in ward no 07, Kodigehalli Sub Division.'**

Please find the enclosed Test Reports of the above.

**Thanking You,
For Civil Tech Labs**


(KHUSHBOO L.)
Quality Manager




Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.D.M.P.,
Bangalore.



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TEST REPORT

TEST ON AGGREGATES ('AIV' & Combined Flakiness & Elongation Index)

Wet Mix Macadam

Name & Address of the Customer	AEE, Kodigehalli Sub Division, BBMP.
Name of Work	Improvements to Roads in Hoysala layout and Surrounding area in ward no 07, Kodigehalli Sub Division.
Agency of the Name	Sri. Sambashiva.
Date of Testing	28/06/2016
Reference	MORTH Table 400-10

Sample No	Aggregate Impact Value 'AIV' in %	Average AIV in %	Remarks
1	21.6	22.2	Satisfactory (As per MORTH for WMM, Maximum allowed AIV is 30 %)
2	22.8		

Test	Result in %	Combined Flakiness & Elongation Index 'C-F&E' in %	Remarks
Flakiness Index	12.6	26.2	Satisfactory (As per MORTH for WMM, Maximum allowed 'C-F&E' is 30 %)
Elongation Index	13.6		

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Asst. Executive Engineer
AEE (W7)


(KHUSHBOO L.)
Quality Manager





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TEST REPORT

GRADATION TEST ON WET MIX MACADAM

Name & Address of the Customer	AEE, Kodigehalli Sub Division, BBMP.
Name of Work	Improvements to Roads in Hoysala layout and Surrounding area in ward no 07, Kodigehalli Sub Division.
Name of the Agency	Sri. Sambashiva.
Date of Testing	28/06/2016
Technical Reference	MORTH Table 400-11

IS Sieve Designation (mm)	% By Weight Passing IS Sieve	Actual % By Weight Passing IS Sieve	Remarks
53	100	100	Satisfy the Requirements
45	95-100	98.8	
22.4	60-80	73.6	
11.2	40-60	52.8	
4.75	25-40	34.6	
2.36	15-30	26.8	
0.6	8-22	18.2	
0.075	0-8	6.9	

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As per U.N.D
AE (W9)


(KHUSHBOO L.)
Quality Manager





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TEST REPORT

TEST ON AGGREGATES ('AIV' & Combined Flakiness & Elongation Index)

Wet Mix Macadam

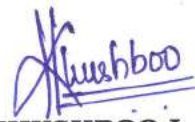
Name & Address of the Customer	AEE, Kodigehalli Sub Division, BBMP.
Name of Work	Improvements to Roads in Hoysala layout and Surrounding area in ward no 07, Kodigehalli Sub Division.
Agency of the Name	Sri. Sambashiva.
Date of Testing	29/06/2016
Reference	MORTH Table 400-10

Sample No	Aggregate Impact Value 'AIV' in %	Average AIV in %	Remarks
1	21.3	22.0	Satisfactory (As per MORTH for WMM, Maximum allowed AIV is 30 %)
2	22.6		
Test	Result in %	Combined Flakiness & Elongation Index 'C-F&E' in %	Remarks
Flakiness Index	11.5	23.8	Satisfactory (As per MORTH for WMM, Maximum allowed 'C-F&E' is 30 %)
Elongation Index	12.3		

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M. L. P. U. N. D.
AEE (W-1)


(KHUSHBOO L.)
Quality Manager





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TEST REPORT

GRADATION TEST ON WET MIX MACADAM

Name & Address of the Customer	AEE, Kodigehalli Sub Division, BBMP.
Name of Work	Improvements to Roads in Hoysala layout and Surrounding area in ward no 07, Kodigehalli Sub Division.
Name of the Agency	Sri. Sambashiva.
Date of Testing	29/06/2016
Technical Reference	MORTH Table 400-11

IS Sieve Designation (mm)	% By Weight Passing IS Sieve	Actual % By Weight Passing IS Sieve	Remarks
53	100	100	Satisfy the Requirements
45	95-100	97.2	
22.4	60-80	74.8	
11.2	40-60	53.6	
4.75	25-40	35.2	
2.36	15-30	25.4	
0.6	8-22	17.8	
0.075	0-8	7.3	

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(KHUSHBOO L.)
Quality Manager



As per N-D
AEE (W7)



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To,

Assistant Executive Engineer,
Kodigehalli Sub Division,
BBMP.

14th July 2016

Dear Sir,

Sub: Testing of Semi Dense Bituminous Concrete.

As requested, tests on physical properties were carried out for the Semi Dense Bituminous Concrete supplied by you, for the work of **'Improvements to Roads in Hoysala layout and Surrounding area in ward no 07, Kodigehalli Sub Division.'**

Please find the enclosed Test Reports of the above.

**Thanking You,
For Civil Tech Labs**


(KHUSHBOO L.)
Quality Manager





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TEST REPORT

TEST ON THE DETERMINATION OF BITUMEN CONTENT ON SEMI DENSE BITUMINOUS CONCRETE MIX-GRADE 2

Name & Address of the Customer	AEE, Kodigehalli Sub Division, BBMP.
Name of Work	Improvements to Roads in Hoysala layout and Surrounding area in ward no 07, Kodigehalli Sub Division.
Name of the Agency	Sri. Sambashiva.
Date of Testing	14/07/2016

A)	Sl. No.	Test	Test Method	Technical Reference
	1	Extraction of mineral aggregate	Test Method A (Centrifuge Method)	ASTM: D2172/ D2172M-11
	2	Determination of amount of mineral matter/fines in the extract	Ashing Method	

B)	Specification: As Per MORTH (4th Revision) Table 500-15, Bitumen Content for SDBC Grade-2 is MIN 5%		
	Sl. No.	Description	Values
	1	Weight of bituminous mixture before extraction test, W_1 g	2000
	2	Weight of mineral aggregate obtained from centrifuge extractor, W_2 g	1883.26
	3	Weight of mineral matter in the total volume of extract (by ashing), W_3 g	12.3
	4	Total weight of aggregate in the bituminous mixture, W_4 g = $(W_2 + W_3)$ g	1895.56
	5	Total weight of Bitumen extracted from the mixture, W_5 g = $(W_1 - W_4)$ g	104.44
	6	Bitumen content in %, (W_5/W_1) %	5.22
	Remarks		Satisfies the requirements.

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As per N.D.
AE (W7)

(KHUSHBOO L)
Quality Manager





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TEST REPORT

GRADATION TEST ON SEMI DENSE BITUMINOUS CONCRETE MIX GRADE - 2

Name & Address of the Customer	AEE, Kodigehalli Sub Division, BBMP.
Name of Work	Improvements to Roads in Hoysala layout and Surrounding area in ward no 07, Kodigehalli Sub Division.
Name of the Agency	Sri. Sambashiva.
Date of Testing	14/07/2016
Technical Reference	IS : 2386(Part I)-1963 (Reaffirmed 2011)

Sample-2			
IS Sieve Designation (mm)	% By Weight Passing IS Sieve as per MORTH (4th Revision) Table 500-15 for SDBC Grade-2	Actual % By Weight Passing IS Sieve	Remarks
13.2	100	100	Satisfies the requirements
9.5	90-100	97.4	
4.75	35-51	42.6	
2.36	24-39	26.3	
1.18	15-30	23.5	
0.3	9-19	17.5	
0.075	3-8	7.1	

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(KHUSHBOO L)
Quality Manager




AEE (W7)



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TEST REPORT

GRADATION TEST ON SEMI DENSE BITUMINOUS CONCRETE MIX GRADE - 2

Name & Address of the Customer	AEE, Kodigehalli Sub Division, BBMP.
Name of Work	Improvements to Roads in Hoysala layout and Surrounding area in ward no 07, Kodigehalli Sub Division.
Name of the Agency	Sri. Sambashiva.
Date of Testing	14/07/2016
Technical Reference	IS : 2386(Part I)-1963 (Reaffirmed 2011)

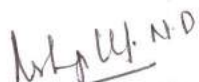
Sample-1			Remarks
IS Sieve Designation (mm)	% By Weight Passing IS Sieve as per MORTH (4th Revision) Table 500-15 for SDBC Grade-2	Actual % By Weight Passing IS Sieve	
13.2	100	100	Satisfies the requirements
9.5	90-100	98.4	
4.75	35-51	42.6	
2.36	24-39	27.9	
1.18	15-30	22.3	
0.3	9-19	18.2	
0.075	3-8	6.9	

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Quality Manager




AEE (W7)



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TEST REPORT

STRIPPING TEST OF ROAD AGGREGATES

Semi Dense Bituminous Concrete

Name & Address of the Customer	AEE, Kodigehalli Sub Division, BBMP.
Name of Work	Improvements to Roads in Hoysala layout and Surrounding area in ward no 07, Kodigehalli Sub Division.
Name of Agency	Sri. Sambashiva.
Date of Testing	14/07/2016

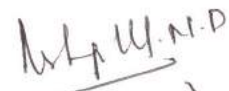
Method of Test	Observation No.	Uncovered Area/Stripping in %	Average Stripping Value in %	As Per Morth Table 500-14	Remarks
IS 6241-1971 (Reaffirmed 2003)	1	3.8	4.0	5 % Maximum	Satisfactory
	2	4.1			
	3	4.2			

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(KHUSHBOO L.)
Quality Manager




A.E. (u7)



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Ph: 080 - 4114 2867, Email: civiltechlabs@gmail.com

TEST REPORT

WATER ABSORPTION TEST OF ROAD AGGREGATES

Semi Dense Bituminous Concrete (SDBC)

Name & Address of the Customer	AEE, Kodigehalli Sub Division, BBMP.
Name of Work	Improvements to Roads in Hoysala layout and Surrounding area in ward no 07, Kodigehalli Sub Division.
Name of Agency	Sri. Sambashiva.
Date of Testing	14/07/2016

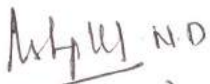
Method of Test	Sample No.	Water Absorption in %	Average Water Absorption in %	As per MORTH Table 500-14	Remarks
IS : 2386 (Part 3)	1	1.3	1.0	2 % Maximum	Satisfactory
	2	0.9			
	3	0.8			

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Quality Manager




AE (127)



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TEST REPORT

TEST ON AGGREGATES ('AIV' & Combined Flakiness & Elongation Index)

Semi Dense Bituminous Concrete

Name & Address of the Customer	AEE, Kodigehalli Sub Division, BBMP.
Name of Work	Improvements to Roads in Hoysala layout and Surrounding area in ward no 07, Kodigehalli Sub Division.
Name of Agency	Sri. Sambashiva.
Date of Testing	14/07/2016
Reference	MORTH Table 500-14

Sl. No	Aggregate Impact Value 'AIV' in %	Average AIV in %	Remarks
1	22.3	21.8	Satisfactory (As per MORTH for SDBC, Maximum allowed AIV is 27 %)
2	21.3		

Test	Result in %	Combined Flakiness & Elongation Index 'C-F&E' in %	Remarks
Flakiness Index	11.2	23.7	Satisfactory (As per MORTH for SDBC, Maximum allowed 'C-F&E' is 30 %)
Elongation Index	12.5		

Note:

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Handwritten signature
AE (W&I)

Handwritten signature
(KHUSHBOO L.)
Quality Manager

